

CLAIMS

WHAT IS CLAIMED IS:

1. A method of fabricating an optical device for propagating an optical signal, the method comprising:
 - 5 providing a first substrate having a first side and a second side;
 - forming a first light guiding structure on the first side of the first substrate, the first light guiding structure comprising a different material than the first substrate;
 - forming a dielectric layer on the first substrate or on a second substrate;
 - etching a cavity to remove a portion of the dielectric layer and a portion of the 10 second substrate;
 - bonding the first substrate to the second substrate such that the dielectric layer is located between the first and second substrates and the first light guiding structure resides in the cavity;
 - reducing the thickness of the second side of the first substrate;
 - 15 depositing a second material on the second side of the first substrate such that the deposited second material substantially cancels the effect of thermal stress on the first light guiding structure; and

processing the first substrate to form a suspended structure which is adapted to move relative to the second substrate, the suspended structure having the first light guiding structure.

2. The method of claim 1 wherein the first light guiding structure is a
5 waveguide.

3. The method of claim 1 wherein the deposited second material forms at least a component of a second light guiding structure.

4. The method of claim 2 wherein the deposited second material forms at least a component of a second light guiding structure.

10 5. The method of claim 1 wherein the first light guiding structure includes a plurality of waveguides.